

Six New Thysanoptera from the Western United States.

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This paper continues the description of the new species which have accumulated in my collection during the past few years. Three of the six forms described below were collected in Colorado in 1918 and 1919 by Mr. L. O. Jackson, formerly of the U. S. Biological Survey; two were given to me by the late Mr. H. M. Russell, whose careful work on thrips for the Bureau of Entomology has made his name known to all entomologists; while the remaining one was taken in Texas in 1911 by the late Mr. Charles A. Hart, formerly Systematic Entomologist of the Illinois State Laboratory of Natural History.

The types are in my collection.

Anaphothrips decolor sp. nov.

♀ (macropterous).—Length about 1.3 mm. Color uniform, pale, yellowish white, with last three abdominal segments shading to pale brownish, extreme tip of segment 10 dark brown; antennal segments 1-4 nearly white, 5 shading to brown at tip, 6-8 dark brown; ocellar pigment wanting; wings colorless. Sixth antennal segment divided; no long bristles on posterior angles of prothorax; tenth abdominal segment divided above in its entire length.

Colorado, L. O. Jackson; taken by sweeping.

Closest to *A. longipennis* Crawford, but easily known by the total absence of long prothoracic bristles and the divided last segment of the abdomen.

Haplothrips purpuratus sp. nov.

♀ (macropterous).—Length about 1.5 mm. Color blackish brown, with fore tarsi, ends of fore tibiae, and antennal segments 3-6 bright yellow; segments 1, 2, 7 and 8 of antennae blackish brown, 2 paler at apex, 5 and 6 slightly infuscate apically; wings colorless, without the usual brown area at base, hairs dark gray, except at tip of wings, where they are abruptly clear white; subhypodermal pigmentation purple.

Head unusually long, about 1.4 times as long as greatest width, broadest behind eyes, sides slightly rounded and somewhat narrowed to base; vertex subconically produced in front of eyes and overhanging insertion of antennae, the anterior

ocellus attaining frontal costa and directed forward; dorsal and lateral surfaces very finely and closely, but not deeply, transversely striate, and set with a few minute, barely distinguishable bristles; postocular bristles blunt but nearly pointed, almost as long as eyes. Eyes small, not protruding. Ocelli anterior in position. Antennae about 1.6 times as long as head; segment 3 slightly shorter than 2, 4, 5 or 6, outer surface less rounded than inner, inner surface without sense cone; 4, 5 and 6 alike in shape, with successively slenderer and shorter pedicels; 7 with pedicel half as wide as apex; 8 subconical, closely united with 7.

Prothorax along median dorsal line less than half as long as head and (inclusive of coxae) about 2.5 times as wide as long, surface finely and closely striate with anastomosing lines except at middle; midlateral bristles wanting, all others blunt or slightly dilated at tips, shorter but somewhat stouter than postoculars, dark in color. Mesoscutum deeply, and exceedingly closely, transversely striate; metascutum similarly, but longitudinally, striate. Wings distinctly narrowed at middle; fore pair with about 22 clear white hairs at tip and devoid of accessory hairs on posterior margin; third subbasal bristle long, pointed, the others about half as long and dilated at tip, all colorless. Tarsal tooth minute.

Abdomen only slightly wider than pterothorax; tergites with a few faint, anastomosing striae. Tube less than one-half as long as head, twice as wide at base as at apex, sides slightly concave. Bristles long and pointed, terminal ones light brown and equal in length to tube, others colorless.

Measurements of holotype (♀): Length 1.49 mm.; head, length 0.240 mm., width 0.174 mm.; prothorax, length along median dorsal line 0.114 mm., width (inclusive of coxae) 0.293 mm.; pterothorax, width 0.308 mm.; abdomen, width 0.332 mm.; tube, length 0.111 mm., width at base 0.066 mm., at apex 0.033 mm.

Antennal segments	1	2	3	4	5	6	7	8
Length (microns) . . .	43	55	48	57	55	51	47	27
Width (microns)	33	29	23	28	27	24	20	11
Total length of antenna	0.38 mm.							

♂ (macropterous).—Much like female, but smaller (length 1.2 mm.) and more slender. Fore legs scarcely more enlarged than in female; fore tarsi with a stout, dark-tipped tooth whose anterior margin is at right angles to axis of tarsus.

Measurements of allotype (♂): Length 1.20 mm.; head, length 0.216 mm., width 0.149 mm.; prothorax, length along median dorsal line 0.101 mm., width 0.255 mm.; pterothorax,

width 0.270 mm.; abdomen, width 0.242 mm.; tube, length 0.090 mm., width at base 0.052 mm., at apex 0.031 mm.

Antennal segments. . . .	1	2	3	4	5	6	7	8
Length (microns) . . .	35	51	45	55	54	49	43	26
Width (microns) . . .	28	27	21	28	25	22	19	10
Total length of antenna 0.36 mm.								

Described from one female and one male taken on *Atriplex* sp., at Tempe, Arizona, October 27, 1913, by Mr. H. M. Russell (No. 230).

The absence of accessory hairs from the posterior margin of the fore wings, the produced vertex, the purplish subhypodermal pigmentation, the antennal coloration, the sculpture of the pronotum and the absence of the midlateral bristle make this an easily known species. It is allied to *jonesii*, *halophilus*, *malifloris* and the new species described below.

Haplothrips distalis sp. nov.

♀ (macropterous).—Length about 1.5 mm. Color pale brown, with bright red subhypodermal pigmentation; fore tarsi, segment 3 of antennae, and usually the bases of segments 4-6, bright yellow; segments 1, 2, 7 and 8 blackish brown, 2 paler apically, 3 often very slightly infuscate at extreme apex, 4-6 brown in distal three-fifths or more, 4 darkest; wings clear and colorless, except occasionally for a slight brownish cloud at extreme base, hairs dark gray except at tip of wings, where they are abruptly clear white.

Head unusually long, about 1.33 times as long as greatest width, broadest behind eyes, sides slightly rounded and somewhat narrowed to base; vertex subconically produced in front of eyes and overhanging insertion of antennae, the anterior ocellus attaining frontal costa and directed forward; dorsal and lateral surfaces very finely and closely transversely striate and set with a few minute, barely distinguishable bristles; postocular bristles blunt, not at all pointed, about two-thirds as long as eyes and dark in color. Eyes small, not protruding. Ocelli anterior in position. Antennae about 1.6 times as long as head; segment 3 about equal in length to 2 and distinctly shorter than 4, without sense cone on inner surface; segment 4 decidedly the longest and broadest in entire antenna, distinctly stouter than 5 or 6; 7 with pedicel more than half as wide as apex; 8 subconical, closely united to 7.

Prothorax along median line less than half as long as head and (inclusive of coxae) about 2.4 times as wide as long, sur-

face without noticeable sculpture; all usual bristles present, blunt but scarcely dilated at tip, dark brown in color, midlaterals subequal to the two pairs on anterior margin, those at posterior angles longer and subequal to postoculars. Mesoscutum moderately closely transversely striate; metascutum more closely and deeply longitudinally striate. Wings distinctly narrowed at middle; fore pair with 9-11 clear white hairs at tip and with about 9 accessory hairs on posterior margin; third subbasal bristle long, pointed, the others less than half as long and dilated at tip, all colorless. Tarsal tooth minute.

Abdomen only slightly wider than pterothorax; tergites faintly sculptured with anastomosing lines. Tube less than one-half as long as head, nearly twice as wide at base as at apex, sides very slightly concave. Bristles long and pointed, terminal ones light brown and longer than tube, others colorless.

Measurements of holotype (♀): Length 1.50 mm.; head, length 0.221 mm., width 0.165 mm.; prothorax, length along median dorsal line 0.105 mm., width (inclusive of coxae) 0.249 mm.; pterothorax, width 0.296 mm.; abdomen, width 0.306 mm.; tube, length 0.105 mm., width at base 0.059 mm., at apex 0.031 mm.

Antennal segments. . . .	1	2	3	4	5	6	7	8
Length (microns) . . .	36	48	48	59	50	45	44	24
Width (microns) . . .	28	29	25	32	27	24	20	12
Total length of antenna 0.35 mm.								

♂ (macropterous).—Much like female, but smaller (length 1.3 mm.) and more slender. Head nearly 1.5 times as long as wide, as broad across eyes as behind them, eyes slightly protruding. Fore legs scarcely more enlarged than in female; fore tarsi with a rather small, stout tooth whose front margin is at right angles to axis of tarsus.

Measurements of allotype (♂): Length 1.29 mm.; head, length 0.215 mm., width 0.146 mm.; prothorax, along median dorsal line 0.093 mm., width (inclusive of coxae) 0.225 mm.; pterothorax, width 0.249 mm.; abdomen, width 0.231 mm.; tube, length 0.105 mm., width at base 0.055 mm., at apex 0.029 mm.

Antennal segments. . . .	1	2	3	4	5	6	7	8
Length (microns) . . .	33	47	47	52	46	44	41	24
Width (microns) . . .	27	26	24	29	26	21	19	12
Total length of antenna 0.33 mm.								

Described from 6 females and 5 males, taken on *Atriplex*

sp., at Tempe, Arizona, October 27, 1913, by Mr. H. M. Russell (No. 230).

Readily known from *purpuratus* and its allies by the coloration of the antennae and the enlarged fourth antennal segment. This group of species bears many points of resemblance to *Leptothrips*.

(To be continued.)

Notes on Cerambycidae (Coleoptera).

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The following notes represent original rearings and observations by the authors which have hitherto not been published in the various papers dealing with the members of the family Cerambycidae. All emergence records are under field conditions unless stated otherwise.

DERANCISTRUS TASLEI Buq.—Adults were reared from the dead dry branches of beech (*Fagus americana*), chestnut (*Castanea dentata*) and oak, collected at Harrisburg, Pennsylvania. This species seems to prefer the dead tops, although the branches lying on the ground often contain larvae.

TRAGOSOMA DEPSARIUM L. var. *HARRISI* Lec.—Adults were found in numbers at Endeavor, Pennsylvania, on July 30, ovipositing in the cracks of barked white pine (*Pinus strobus*) logs, at night.

EBURIA QUADRIGEMINATA Say—This species was found breeding in the hard outer shell of a partly decayed maple at Rockville, Pennsylvania.

ROMALEUM CORTIPHAGUS Craighead—Adults of this *Romaleum* which Dr. Craighead² described from the larva were reared from the outer bark of living white oak (*Quercus alba*) and chestnut oak (*Quercus prinus*) at Harrisburg, Pennsylvania. The work was observed also in the outer bark of living *Quercus muhlenbergii* at Columbus, Ohio.

¹ Authors' names arranged alphabetically.

² F. C. Craighead, North Amer. Cerambycid Larvae, Dom. of C., Dept. of Ag., Tech. Bull. 27.